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TWO TRENDS OF GREAT AGRICULTURAL SIGNIFICANCE/1

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CONTENTS

	Page
Introduction	2
Loss of farm ownership	2
The increase of tenancy	3
The rising ratio of mortgage debt to value of farm real estate	4
The diminishing equity of farm operators in farm real estate	4
The drift of rural youth and wealth to the cities	5
The declining birth rate	9
The declining birth rate a long-time trend	10
The decline in number of births	11
Some implications of the decline in births	11
Can anything be done to alter these trends?	15
Efforts by the State	15
The family and inheritance	16
The churches and farm credit	16
The churches and a familistic philosophy	17
The rural nonfarm population	17
Part-time farmers	18
The survival of a remnant	18

This talk will contain statements of fact, interpretation of these facts, and expression of opinion. Interpretation almost inevitably has a personal bias, and opinion is inherently personal. As I have been for many years a research worker in the Department of Agriculture, it is fitting I should note that the Department of Agriculture has no policy, no attitude even, in many matters I shall discuss. It is necessary first to smelt out the facts, weld these facts by conflict of opinion into a philosophy, and work out that philosophy into a program. My objective in this address is to help to start this democratic process.

/1 Given at the Farmers' and Farm Women's Convention, North Carolina State College of Agriculture and Engineering, Raleigh, N. C., August 3, 1938. This address was given also during September 1938 at four places in Illinois under the joint auspices of the Illinois Agricultural Extension Service and the Illinois Council of Churches.

485-39

INTRODUCTION

We shall consider primarily two trends, the profound significance of which is seldom realized - (1) the gradual loss of land ownership by farming people, apparently by most city people also, and (2) the declining birth rate. The first trend has progressed to the stage where considerably less than half of the farm real estate in the Nation is really owned by farmers; in some of the richest agricultural States only about a fourth.

The second trend has progressed so far that not enough children are being born in the Nation to maintain permanently the present population. In the large cities, where the loss of home ownership has advanced farther than in rural territory, and economic insecurity is doubtless greater, the birth rate is only about half that in the farm population and is only two-thirds to three-fourths sufficient to maintain permanently the population of these cities without accession from outside. If the birth rate continues to fall and immigration from abroad does not increase greatly, the decline in national population which will set in after a few decades, will become rapid. The consequences of a rapidly declining population to an agriculture heavily in debt, and for the most part highly commercialized, will be serious. The consequences, I anticipate, will be serious also in the cities. Some of these consequences are already evident. For example, the enrollment in the first grade of the public schools of the Nation has declined about 100,000 a year since 1930, and is now only four-fifths as large as it was in that year. Most of this decrease has occurred in the cities.

I postulate as a basic principle of national policy, the widespread private ownership of the land, for the ownership of the land by farmers is the ultimate assurance, in my opinion, of freedom and democracy, and, it may develop, of scientific progress. Most men who are dependent on their jobs for a livelihood, whether the employer be an individual, a corporation, or a State, are not wholly free. There are exceptions, but, in general, economic security is the foundation of freedom. And freedom is the foundation of democracy and a condition essential to the progress of science. The unencumbered ownership of the land by farmers is a bulwark of freedom in the United States.

I postulate, secondly, as a basic principle of national policy the reproduction of the race (people); for if the Nation is transitory, all objectives take on the flavor of futility.

LOSS OF FARM OWNERSHIP

Let us consider first the trend in land ownership. The farmers in most parts of the United States, except the Northeast, for 50 years have been slowly losing the ownership of the land./ 2 This loss may be total,

/2 The loss of land ownership in the cities has progressed farther than in agriculture. In 1930 more than 57 percent of urban homes, that is, homes in places of over 2,500 population, were rented by the occupants, and it appears probable from various data that more than two-fifths of those owned by their occupants were mortgaged.

as reflected in the census figures of farm tenancy; or partial, as indicated in the census returns on mortgage debt. Let us consider first the progress of tenancy.

The Increase of Tenancy

In 1900, farm land under lease to the operator constituted about 31 percent of all farm land in the United States; in 1910, about 33 percent; in 1920, about 37 percent; in 1930, about 44 percent; and in 1935 about 45 percent. The number of counties wherein half or more of the land in farms was under lease to the operator was 403, in 1910; 772, in 1925; 1,020, in 1930; and 1,107, in 1935 (fig. 1)./3

Figures as to number of farms operated by tenants are available back to 1880. In that year over 25 percent of all farms in the Nation, including cropper holdings in the South, were operated by tenants; in 1935, 42 percent. In the Corn Belt State of Iowa, our richest agricultural State, the percentages of farms operated by tenants each decennial census from 1880 to 1930 were 24, 28, 35, 38, 42, and 47. In 1935 half the farms were operated by tenants (fig. 2). Turning to the wheat States, the percentages for Kansas are 16, 28, 35, 37, 40, 42, and 44; for North Dakota 2, 7, 8, 14, 26, 35, and 39. But, in the eastern dairy State of New York, the percentages for these census years are 17, 20, 24, 21, 19, 13, and 14; for Maine, the lowest of all States, 4, 5, 5, 4, 4, 4, and 7. The Northeast shows no consistent increase in tenancy, except from 1930 to 1935. For the Cotton Belt, the figures are less comparable because of the shifts of croppers into wage-hands and vice versa, nevertheless, the general trend is clear. For North Carolina, the figures are 33, 34, 41, 42, 44, 49, and 47; for Mississippi, 44, 53, 62, 66, 66, 72, and 70; for Texas, 38, 42, 50, 53, 53, 61, 57, Turning to the West, the figures for Utah are 5, 5, 9, 8, 11, 12, and 15; for California, 20, 18, 23, 21,21,18 and 22. In California hired laborers in 1930 exceeded the total number of farm tenants and owner-operators. Agriculture in California has reached the climax of commercialization in the United States.

But despite the loss of land ownership, may not the income of farmers be increasing? Apparently not. The purchasing power of the net farm income (jointly to owners and to tenants) is no greater, if as great, as a quarter century ago, and the farm land under lease by the operator, for which rent must be paid, increased from 33 percent of all farm land in 1910 to 45 percent in 1935. Rough estimates of rents paid by farmers to non-farmers are $561,000,000, in 1910; $831,000,000, in 1930; $571,000,000, in 1934, a depression and drought year; $699,000,000, in 1935; $743,000,000, in 1936; and $829,000,000, in 1937./4

/3 Figures 1 through 16 appear at the back of this circular (pp

/4 Preliminary estimates of M. M. Regan, Bureau of Agricultural Economics.

The Rising Ratio of Mortgage Debt to Value of Farm Real Estate

Mortgage debt, which deprives the farm operator in part of the ownership of the land, but generally leaves him in control, is constituting an increasing proportion of the value of all farm real estate. Such mortgage debt amounted to about $3,500,000,000 in 1910 for the United States as a whole, rose to nearly $8,000,000,000 by 1920, remained between $9,000,000,000 and $10,000,000,000 from 1925 to 1930, and declined a little below $8,000,000,000 by 1935, owing principally to foreclosures during the depression./5 Debt per acre of all farm real estate more than doubled between 1910 and 1920, and by 1935, despite the foreclosures, was still almost double that in 1910. The value of the land per acre was less in 1935 than in 1910. The ratio of debt to value of full-owner farms mortgaged increased from 27 percent, in 1910, to 29 percent, in 1920, to 40 percent, in 1930, and to 50 percent, in 1935. In 1910, the mortgage debt was about half the gross farm income from all farms, and, in 1930, it was practically equal to the income (fig. 3). The lower interest rate has not counterbalanced the larger load of debt. In 1909, the farmers paid about $200,000,000 interest on mortgage debt; in 1936 and 1937, they paid about $400,000,000. However it be measured, the debt load has about doubled during the last quarter century.

The Diminishing Equity of Farm Operators in Farm Real Estate

Let us now combine the value of farm real estate (land and buildings) operated by tenants with the amount of mortgage debt on farm real estate operated by owners. This is a fuller and more adequate measure of the loss of ownership by farm operators than either tenancy or mortgage debt considered separately.

In 1880 this equity of farm operators in the United States as a whole was about 62 percent of the value of all farm real estate (fig. 4). In 1890, the figure was 59 percent; in 1900, about 54 percent; in 1910, just 50 percent; in 1920, only 46 percent. By 1930 the proportion had fallen to 41 percent, and by 1935 to 39 percent. In 55 years the proportion of the farm lands and buildings in the Nation really owned by the farm operator has fallen from nearly two-thirds to less than two-fifths. In prosperity, as well as in depression, the decline has been about four points each 10 years. Should this decline continue for another 55 years, the farm operators would own only one-sixth of the farm real estate of the Nation; five-sixths would belong to persons other than farmers.

/5 Wall, Norman J. Outstanding Farm-Mortgage Loans of Leading Lending Agencies. U. S. Bur. Agr. Econ. 51 pp. 1937 Mimeographed . See p. 49.

See also Horton, Donald C. Long-Term Debts in the United States. U. S. Dept. Com., Dom. Com. Ser. No. 96, 217 pp., illus. 1937. See p. 131. Nonfarm real estate mortgage debt increased about fivefold between 1910 and 1930 as compared with less than threefold for farm mortgage debt.

This proportion is being rapidly approached in the Corn Belt. In Illinois and Iowa in 1935, the farm operators owned, above mortgage debt, only 28 and 24 percent, respectively, of the value of all farm land and buildings (fig. 5). In this year the insurance companies and banks possessed title to 10 percent of the farm real estate of Iowa./6 The percentage is higher now. In the wheat regions the equity of farm operators in farm real estate ranged from 20 percent in South Dakota to 35 percent in Montana. In the Cotton Belt, the proportions varied, in general, between 30 and 40 percent, but owing to the system of land tenure by croppers, who are really laborers paid with a portion of the crop, this figure exaggerates the real situation. On the other hand, a cropper is much lower down the economic and social scale than a tenant in the Corn Belt, and as most of the plantation owner-operators live in the towns and cities, their interests tend to build up the towns and cities rather than the open country. In the Corn Belt, the Wheat Belt, and the Cotton Belt - regions where agriculture has become highly commercialized, farmers have lost the ownership of the land in largest proportions. In Iowa, settled by homesteaders only 75 to 100 years ago, the equity of farm operators in farm real estate is now less than 25 percent. Fifty-eight percent of the farm land was rented by the operator on January 1, 1935, and, of the farm land operated by full owners, over three-fifths was mortgaged for nearly two-thirds of its value.

In the Dairy Belt, which extends from Maine to Maryland and Minnesota, and in the Corn and Winter Wheat Belt, which extends from Virginia to southern Missouri and southeastern Kansas, where agriculture is less commercialized and the traditions of the farm as a home persist quite strongly, farmers have been more successful in retaining ownership of the land. In New England and New York farmers were increasing their equity prior to the recent depression, and even in 1935 owned above mortgage debt 55 to 70 percent of all farm real estate. In Pennsylvania, the equity of farm operators constituted nearly 60 percent of the total value of farm land in 1935, and there has been little change in this percentage for at least a half century. In Virginia, farmers in 1935 owned, above mortgage debt, over 60 percent of the value of all farm real estate; in West Virginia, 70 percent.

The Drift of Rural Youth and Wealth to the Cities

A very important factor associated with this loss of land ownership by farmers is the migration of farm youth to the cities. This migration is owing not only to the progress of agricultural technique and increasing production per worker, but also to the interim between the time when the son attains maturity and the father reaches senility and retires from farming or dies. The median child is born when the father is about 30, and by the time the father is 50 the son is ready to start on life's work.

/6 Murray, William G., and Brown, Willard O. Farm Land and Debt Situation in Iowa, 1935. Iowa Agr. Expt. Sta. Bull. 328, 32 pp., illus. 1935. See p. 2.

But on one-man farms - and most American farms are such - the son is not needed on the farm, as the father is not ready to retire. So the son seeks a job in town, and the daughter likewise. When the father dies or retires 15 to 25 years later the children are established in urban occupations and no longer care to live on the farm. So they rent the farm, or sell it to someone who is likely, in turn, to rent it. For few farmers have the means to buy.

It is strange that so few people have realized the magnitude of the contribution that farming people have made to the productivity and prosperity of the cities, suburbs, and villages in the feeding, clothing, and educating of the young people who leave the farms. During the decade 1920-29, only about 40 percent of the youth who started to work in the factories, shops, and offices of the cities were raised in the cities; 40 percent were supplied by the rural areas,/7 and about 20 percent were immigrants from foreign lands. The rural youth ready for productive life were provided to the cities practically free of cost, and relatively few have lived long enough to be a burden in old age. One of the principal reasons for the productivity and prosperity of the cities is the large proportion of young and middle-aged people - relatively few dependent children, relatively few aged. On the farms and in the villages, on the other hand, there is a large proportion of children and a large proportion of aged.

If it costs $2,000 (at predepression prices) to rear and educate the average child on American farms to the age of 15, when he may be assumed to be self-supporting - and $150 a year does not seem an excessive estimate of the cost of food, clothing, medical service, education, and all the incidental expenses, with $50 a year allowed for the labor of the child from 10 to 15 years of age/8 - then the 6,300,000 net migration from the farms during the predepression decade 1920-29 represented a contribution of over $12,000,000,000. This contribution was about equal to the value of the cotton crops during these years.

/7 Only about five-sixths of the net migration to urban areas was from the farms, one-sixth was from the rural nonfarm territory. But this was counterbalanced by a migration of approximately equal magnitude from farm to rural nonfarm territory.

/8 This estimate is based primarily on the tables of "farm returns" of owner-operated farms, 1923-30, in successive issues of the Yearbook of Agriculture (see 1932 Yearbook, for example, pages 894-895), checked by data from various cost of living studies. From the item in the Yearbook tables "receipts less cash outlay" has been subtracted "interest paid" and "spent for farm improvements," and "value (at farm) of food produced and used on the farm" has been added. Data on the following items are unavailable and were not considered: Income from work off the farm (census data for 1930 indicate this average nearly $100 a farm), gifts and inheritances, accumulation of savings, changes in indebtedness and wealth, and value of children's labor. The cost of raising children on tenant farms was estimated as nine-tenths that for other farms in the

Nor is this all. When the farmer and his wife grow old and die, the estate is usually divided among the children. During the decade 1920-29, about one-fifth of the farmers and their wives died, and their estates were distributed among the children. About one-half of the children had moved to town, and those children who remained on the farm had to mortgage the farm in many cases to pay the brothers and sisters who lived in the cities their share of the estate. A rough estimate indicates that between $3,000,000,000 and $4,000,000,000 was transferred from the farms to the cities and villages during the decade 1920-29 incident to the settlement of estates. Generally the child who remains on the farm, or some stranger who buys it, has to mortgage the farm to pay the heirs in the cities their share of the estate. We cannot separate interest on debt arising from this cause from that arising from other causes, but the Bureau of Agricultural Economics has estimated the total interest on mortgage debt paid by farmers to nonfarmers during that decade at $8,500,000,000. Sometimes all the children have gone to the cities, and on the death of the parents they rent the farm, or sell it to someone who rents it. Rental payments made by farmers to nonfarmers during that period amounted to about $11,500,000,000./9

It is not intended to draw up a balance sheet of rural-urban contributions, but it appears almost certain that the movement of wealth from the cities to the farms - income of farmers from nonfarm investments, Government pensions, State aid to schools in poor farming areas, probably a portion of the cost of improved roads, expenditures of city people on country estates, etc. - is small in comparison with this drift of wealth from the farms to the cities. Taking all these items into consideration, it appears probable that the net movement of wealth from farms exceeded $20,000,000,000 during the decade 1920-29 and probably did not exceed $30,000,000,000. If $25,000,000,000 were taken as a very rough estimate,

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United States as a whole and at five-sixths in the South. Howard A. Turner, of the Bureau of Agricultural Economics, made these computations. When farm family living costs to members of the family were prorated, a male adult was given a weight of 1, female adult of 0.8, children averaged 0.4 (range from 0.2 for under 2 years of age to 0.7 for 14 years of age).

See King, Willford I., and Sydenstricker, Edgar., A Method of Classifying Families According to Incomes in Studies of Disease Prevalence, U.S. Treas. Dept. Pub. Health Reports, Vol. 35, No. 48, pp. 2829-2846, illus. 1920. The cost of living studies indicate a higher figure than the $1,660 indicated by the above method, and the figure $1,750 has been taken as the cost excluding education.

The expenditure for education per pupil in the rural elementary schools averaged in 1936 about $65 for the United States as a whole. Assuming an average of 8 years schooling this would total $520 per child

This figure of $2250 should probably be reduced somewhat to allow for the labor of the child which, however, would be worth little or nothing prior to 10 years of age; perhaps $250, or $50 a year would be a fair estimate for the value of the child's labor from 10 to 15 years of age.

/9 Bureau of Agricultural Economics, Crops and Markets. Nov. 1932, p. 440; and July 1927, p. 254.

it appears that the equivalent of about one-fourth of the gross value of farm products or about one-third of the net value after cash costs of production are subtracted, was transferred from the farms during the pre-depression decade for which nothing was received in return./10

During the decade 1920-29, characterized in most years by urban prosperity, the migration from farms was especially heavy from areas of high birth rates, poor to fair soils, and hilly surface. About 60 percent of the net migration was from the Southern States (fig. 6). The ratio of net migration to farm population in 1920 was even higher in Utah (fig. 7). But as the economic depression developed, rural youth found increasing difficulty in obtaining work in the cities, and a million or more were backed up on farms. Even more persons, apparently mostly of rural origin, left the cities for the farms seeking shelter and sustenance with relatives and friends. This migration is estimated at more than 6,000,000 during the 5 years 1930-34./11 About 2,000,000 survivors of this back-to-the-land movement were still on farms when the agricultural census was taken in January 1935 (fig. 8). The net migration from farms in the Nation as a whole was only about one-fifth as large during the 5 years 1930-34 as during the 5 years preceding, and there was a net migration to farms in the industrial northeastern portion of the Nation (fig. 9).

It appears that economic depressions can exercise a profound influence on the extent and direction of rural-urban migration; and, consequently, on the drift of rural wealth to the cities. But the backing up of youth on farms means an increase in the number of workers, and in view of the prospect for a continued almost stationary demand for farm products, it seems very likely that future economic depressions, like the last, will reverse, temporarily at least, the century-long trend toward increasing production per worker. There may be even a decline in level of living, except in food supply.

/10 It may be contended by theoretical economists that the value of farm property in a commercial economy is the result of having a market in the cities. But, were this true, would it alter the fact that farmers are contributing a large proportion of their income without receiving goods or services in return? And would it be true that the city people should receive this bonus arising from migration because they provide a market for farm products? Moreover, American agriculture is not wholly commercial, and land values are as high relative to net productivity in many counties primarily self-sufficing as in commercial counties. Farmers exchange products with each other as well as with city people, and land has value as a place to live as well as a place to grow food for the cities.

/11 Bureau of Agricultural Economics. Farm Population Estimates. January 1, 1938, p. 9.

In other words, cessation of migration from farms will not solve the problem of rural poverty. The remedy lies, rather, in a larger return current of wealth from the cities. The cities, through Federal appropriations, might well pay the entire cost of educating the large number of farm youth who will later migrate to the cities. The Federal Government might well bear also parts of the cost of providing medical services for rural regions, as it is now providing good roads. In these and other ways the great contribution of the farm people to the urban people, and to the Nation as a whole, could be repaid.

The need is urgent. The increase in number of farms during the 5 years, 1930-34, was about 500,000, mostly in the Appalachian Mountain region and similar regions where land is relatively cheap and many vacant houses or shacks were available (fig. 10). Population is increasing rapidly, while natural resources are diminishing, particularly the soil resources because or erosion. In these regions educational facilities are relatively poor, but the ratio of expenditure for schools to the taxable wealth is greater than in many richer States.

The farmers of the Nation face a dilemma. If a period of prosperity should persist and millions of rural youth move to the cities, the drift of wealth from the farms would continue. But, if depressions become more frequent or more severe, and youth are backed up on farms, an increasing farm population in much of the Nation seems likely to be associated with an almost stationary and later declining urban population and demand for farm products.

This population prospect is of great significance to American agriculture. Let us consider it briefly:

THE DECLINING BIRTH RATE

The most significant development affecting the agricultural prospect is that in population trends. Happily, in this field it is possible to forecast the future with greater assurance than in other fields, for most of the people who will be living 10, 20, even 30 years hence are living today; changes are slow. Births now add about 1.7 percent each year to the population, and deaths subtract about 1.1 percent; net immigration has declined to practically nothing, and seems likely to be small as long as extensive unemployment persists. There is not only this momentum of living people, but also the momentum of tradition and custom, which results in the changes in births being very gradual. Nevertheless changes of great significance are occurring.

The last two centuries have been unique in human history. The population of the world has increased from about 670,000,000 in 1740 to

over 1,800,000,000 today./12 The increase in two centuries has been twice as great as in all the centuries preceding. In Europe the increase has been from about 135,000,000, in 1740 to about 500,000,000, today; in the United States the increase has been from less than 1,000,000 to 130,000,000. (See fig. 11 for increase since 1850.)

The increase alone between 1920 and 1930 - over 16,000,000 - was almost as great as the total population of Canada and Australia at the present time. The rapid increase of population stimulated the swift development of industry, the extraordinary progress of commerce and transportation, and the great expansion of agriculture which occurred in the United States prior to 1930, and thus promoted the increase of land values. The expectation of a continuing rapid increase in population has long constituted an essential element in our national calculations and policies. During the past decade a great change has occurred in the outlook for population growth, which has profound implications for land utilization and agricultural policy.

In most countries of northern Europe as well as in the United States a stationary population is likely to be attained within one to three decades, indeed, has already been reached in Great Britain, France, and Sweden./13 And in all northern European countries, except the Netherlands, this stationary condition will probably be followed by a declining population, because not enough children are being born to maintain permanently the present population.

The Declining Birth Rate a Long-Time Trend

In the United States this decline in the birth rate has been most rapid, until recently, in the cities. It started apparently in southern New England over a century ago, and spread with the progress of industrialization, commercialization, and urbanization until today the lowest reproduction rate is not in New England, but in California (fig. 12). The reproduction rate in the large cities in 1930 was only about half that in the farm population (fig. 13). In the large cities it was lowest in the business and professional groups (fig. 14). Today it is probable that in these classes the reproduction rate is only 50 to 60 percent of that necessary to maintain population stationary. The conditions of living and the philosophy of life prevalent in the cities evidently tend toward extinction.

/12 Wilcox, Walter F. International Migrations, Vol. II, 715 pp. New York. National Bureau of Economic Research, Inc., 1931. "Increase in the Population of the Earth and of the Continents Since 1650." pp. 33-82. Carr-Saunders, A. M., in World Population (Oxford, 1936, pp.42), increases the estimate to 728,000,000 in 1750, and to 2,057,000,000 in 1933.

/13 Carr-Saunders, A. M., World Population, Oxford. The Clarendon Press. 1936. Fig. 26 and pp. 131-132.

The Decline in Number of Births

In the United States the crest of births was reached in 1921, when nearly 3,000,000 children were born in the Nation. After that year the accelerated decline in the birth rate more than counterbalanced the increasing number of women of childbearing age, the heritage of the higher birth rate a generation previously, and of immigration from abroad. In 1924, however, there were about 2,900,000 births. Since 1924 the decline in births has been almost continuous, until now the number is only 2,200,000 to 2,300,000 (fig. 15). Enrollment in the elementary schools as a whole is declining about 200,000 a year. There are about 12 percent fewer children under 10 years of age in the Nation than there were 8 years ago, when the census was taken.

But, the number of youth over 17 years of age, the number of middle-aged and, notably, the number of old people is increasing, principally because of the increasing number of births in most years prior to 1921 and the former immigration from abroad. By 1940 the number of people 30 to 50 years of age will be 10 percent larger than in 1930, and by 1950 about 24 percent larger than in 1930, assuming no wars or famines or pestilences occur meanwhile. The number of people over 65 years of age will double in the next 25 to 30 years, and nearly treble in the next 50 years. These people are living now, and the number who will survive to this age under normal conditions can be estimated within an error of a few percent.

If births continue to decline, but at a slackening rate, and immigrants from abroad do not increase, the crest in the Nation's population will likely be reached between 1950 and 1960, when the population of the Nation may be 10,000,000 more than at present. The crest will not be a peak but a plateau, with little change in numbers for several years before and several years after the maximum is reached. It will probably be a third to a half a century before population will have fallen to the present number of 130,000,000. In other words, population seems likely to be almost stationary for several decades to come, increasing most rapidly (700,000 to 800,000 a year) in the next few years, and falling rapidly a half century hence.

Some Implications of the Decline in Births

The implications to agriculture of this approach of a stationary and probably later declining population, with an increasing number of old people for 50 years to come, are many, but only a few will be noted:

1. The decline in children is probably affecting already the demand for certain agricultural products. Several urban studies indicate that children consume 50 to 100 percent more milk per capita than do

adults./14 If this be the case, the consumption of milk is already being affected by the change in the age composition of the population. On the other hand, if adults consume more cereals and meat than children consume, as appears probable, the demand for these foods may continue to increase after the population of the Nation begins to decline. But, speaking broadly, a decline in population will soon be followed, very likely, by a decline in consumption of farm products, for consumption per capita of the foods and fibers, in the aggregate, has not varied more than a few percent for a third of a century, at least, and the trend, if not horizontal, is slightly downward.

The increase in the population of the United States averaged more than 1,600,000 a year during the decade 1920-29. Now the increase is about half as large. Since consumption of farm products per capita is in the aggregate practically stationary, only about half as much annual increase in production is now required as was needed a decade ago to meet domestic demand. Since about $2\frac{1}{2}$ acres of harvested crops per capita are required for domestic consumption at present, it appears that the 800,000 average annual increase in population in recent years would need an annual increment of about 2,000,000 acres of crops, acre-yields remaining constant. The 10,000,000 probable increase in population by 1960 would need about 25,000,000 additional acres of crops, acre-yields and per capita consumption of farm commodities remaining unchanged. This would be an increase of 7 percent.

It should be recognized, however, that as long as the decrease in births exceeds the increase in old people, the number of dependents because of age is declining and the standard of living should rise, other factors remaining equal. The decrease of dependents permits diversion of funds from purchase of essential foods and clothes to the purchase of more desirable foods as well as luxuries. But other factors may not remain equal. The trend of per capita consumption of foods as a whole has been horizontal or downward, as previously noted, despite the decline in proportion of dependents and increase in urban incomes prior to the depression.

/14 Howe, Charles B., and Warren, Waite C., The Consumption of Dairy Products in Seven Metropolitan Cities of New Jersey. N. J. Agr. Expt. Sta. 124 pp. 1932. See pp. 68-84. Mimeographed.
Cowden, T. K., and Sturges, Alexander, The Consumption of Fluid Milk and Other Dairy Products in Philadelphia, Pennsylvania, June 1934. Prelim. Rept. Pa. Agr. Expt. Sta. Tech. Paper No. 659. July 1934. See pp. 19-20, 28-31. Mimeographed.
Waugh, Frederick V., The Consumption of Milk and Dairy Products in Metropolitan Boston in December, 1930. Published by the Massachusetts Agricultural Experiment Station, the New Hampshire Agricultural Experiment Station, and the Massachusetts Department of Agriculture, cooperating with the New England Dairy and Food Council, The New England Research Council on Marketing and Food Supply, and the United States Bureau of Agricultural Economics. 27 pp. 1931.

During the last 20 years there has been practically no increase in acreage of harvested crops, the land released by the decline in horses and mules, the more efficient utilization of feed by farm animals, the decline in exports, as well as in per capita consumption, and other factors, having met the needs arising from the increase in population. The number of horses and mules continues to decline, and there is room for further improvements in animal husbandry. It is quite possible, therefore, that no increase in cropland will be required before the population of the Nation becomes stationary.

2. Population trends in other countries must also be considered in connection with the outlook for exports. The population of most northern European countries, which formerly received the major part of our exports of foodstuffs, is almost stationary, and probably will soon decline. Meanwhile the governments of those countries must protect the farmers, for they provide not only much of the food needed by the urban people, but also more than their share of the soldiers in war and citizens in peace. The outlook for any great increase in exports of farm products, except of cotton, tobacco, and fruit, is not bright. And other countries of the world are increasing their production of cotton.

3. Another consequence of a declining national population, provided the difference between urban and rural birth rates persists, will be a more rapid decline in urban than in rural population, unless migration from rural to urban areas is accelerated. Such migration may be expected to occur in periods of prosperity, but will probably be retarded in periods of depression. It appears that New York, Detroit, Chicago, and doubtless other cities declined in population during the depression. In the large cities of the Pacific coast and in several cities of the East, deaths now exceed births. These cities are now and many others will soon be dependent on accessions from outside for any increase of population. In an increasing number of cities the accessions from outside, particularly in times of depressions, will fail to counterbalance the excess of deaths over births. The great uncertainty in the population prospect is not the total number of people in the Nation, but their residence, whether increasingly rural or urban, and this depends primarily on migration. A persistent decline in the urban population would have profound effects on commercial agriculture.

4. More than half the farms of the Nation are in the South and the birth rate in the farm population of the South is higher than in the farm population of the North and much higher than the birth rate in the cities both North and South. In the large cities, South as well as North, 10 adults, on the average, are now raising about 7 children. Should the birth rate fall no farther, these 7 would raise about 5 children, these 5 about $3\frac{1}{2}$. In the farm population of the South, by contrast, 10 adults are raising 12 to 20 children varying with the county; the average probably exceeds 15. Should the birth rate fall no further, these 15 would raise 21 children, and these 21 about 32. Population would nearly treble in a century, were there no migration from the farms.

Now the birth rate is likely to decline in the rural South as well as in the cities, but if the past forecasts the future, the rural decline will be no more rapid than the urban. It appears probable that 1,000 southern farm people will have four to eight times as many descendants a century hence as 1,000 city people, either in the North or the South, depending on the extent of migration from the farms. Clearly, the farm population of the South is destined to contribute in increasing proportions to the future citizenry of the Nation. Just as the children of the people of the mountain South occupied the territory from Tennessee to Texas and Missouri, so do the children of the rural South seem destined to people much of the country in the future.

The South is the last great reservoir of human resources, but there are smaller numbers of people elsewhere who are consciously or unconsciously following the injunction to be fruitful and multiply and replenish the earth, notably the farming people of the upper Great Lakes region, the foreign stocks in the Great Plains, the Mormons of Utah and Idaho, and the Spanish-American peoples of the Southwest (fig. 16).

The problem of adequate education for these millions of youth in areas where the birth rate is high, resources are meager and taxation already is heavy, is baffling. In South Carolina, for example, there are more than twice as many children 6 to 14 years of age per 1,000 adults as in California, but less than half as much taxable wealth per adult./15 Moreover, the flow of youth from South Carolina is outward, and the feeding, clothing, and educating of these youth have cost the people of South Carolina hundreds of millions of dollars since the World War; whereas the flow of youth has been toward California, and they carried to that State not only their value as workmen and producers, but also much of whatever wealth they possessed. The welfare of the Nation as a whole, as well as the demands of justice, requires, in my opinion, that South Carolina and other States that are providing the people of the future receive Federal help in the education of the children. These rural children of the South, and of other States with a relatively high birth rate, are one of the greatest problems of the Nation, but also one of its greatest resources.

5. An important implication of the decline in births is increasing concentration of wealth. When parents have five or six children it is obvious that wealth tends to be widely distributed by inheritance each generation. When parents have only one or two children, it is obvious that through inheritance wealth tends to concentrate. When such children marry, the wealth of two families may be concentrated into one family. Moreover, since the decline in birth rate in the cities is more rapid in the middle and upper classes than in the lower, measured by wealth, the tendency is toward further increasing the concentration of wealth. The differential in the decline of the birth rate is one of the major factors, in my opinion, accounting for the concentration of wealth in the United States.

/15 Doane, R. R., The Georgraphic Distribution of the Physical Wealth of the United States: Property Ownership by States; Security Holdings, Insurance Equities, Etc. Annalist, Vol. 46, pp. 676-679. Nov. 15, 1935.

6. One of the greatest problems of the age is unemployment, and back of the unemployment problem are two others, (1) the use of machinery and (2) the distribution of wealth and income. This is well recognized by many people, but few have seen the significance of the decline in births in relation to this problem of unemployment. The decline in births is tending both to lessen the demand for many commodities, particularly farm products, and to induce a concentration in wealth and income, thus tending to lessen the purchasing power of the masses of the people. The efforts to maintain this purchasing power through installment buying tend not only to decrease consumption because of the higher prices paid, but also to increase the proportion of the national income going to the creditor class, and therefore, to accelerate the concentration of wealth. The government can tax away a portion of this wealth and income, but to the extent that it spends these taxes for economically unproductive purposes, it tends to increase the consumption of capital. With a nation, as with an individual, it is not difficult to dissipate great wealth.

CAN ANYTHING BE DONE TO ALTER THESE TRENDS?

Can these trends toward loss of land ownership by farm operators and toward a declining national population be altered? Undoubtedly they can, but whether they will be is less certain. For a profound change in the philosophy of life, in judgments as to what is worth while, also, probably, a partial reorganization of the economic system, appears necessary. Apparently, the spirit of sacrifice must replace in large part the spirit of selfishness - sacrifice of parents for the sake of children, sacrifice of the present for the sake of the future (for example, in soil conservation and in most efforts to accumulate wealth), sacrifice at times of the wishes of the individual for the welfare of the Nation. Such a spirit is not consonant with the principles accepted and followed by many people in our present economic system. This system has acquired great momentum, and until its economic and social consequences become clearly apparent it is unlikely that effective efforts will be made to alter the trends.

Efforts by the State

However, it is encouraging to observe the magnitude of the services rendered by the Farm Credit Administration and Farm Security Administration in aiding farmers to acquire the ownership of farms by means of loans at low interest rates (which encourages ownership), with repayment on the amortization plan, thus reducing the danger of foreclosure during periods of low prices for farm products. But it must be recognized that the interest payments, and of the principal also, to these Government agencies still constitute a large drift of rural wealth to the cities. That the activities of these agencies is having any material effect on the birth rate is unlikely.

It is encouraging also to note the rise of the social-security movement and the efforts of the Government to provide a minimum of economic security for the unemployed and the aged. This may induce a few couples

to risk the economic uncertainty of the times and raise a larger family than they would otherwise venture to do. Apparently these governmental agencies, despite the magnitude of their efforts, are, at most, merely retarding the progress of these two trends.

The Family and Inheritance

In the past, the family has been an important means of transferring the ownership of the land from one generation to the next, and, though weaker, it still remains an important means of such transfer. According to the estimates of the Bureau of Agricultural Economics, about 15 percent of all farm transfers during recent years - about three-fourths as many as those arising from voluntary sales and trades, were accomplished through inheritance or gift./16

Inheritance without a mortgage has the great advantage of enabling each generation to start climbing from the shoulders of the preceding generation, so to speak, instead of from the ground. The young couple need not dig and delve all their lives, and pay the price of the farm often several times over in interest and principal, before they finally achieve unencumbered ownership. Instead, wealth can accumulate from generation to generation, the land can be improved, new houses built, and the children given a higher education. The disadvantage, sometimes amounting to injustice, is, that when there is more than one child, the child who inherits the farm must, in most cases, receive more in the settlement of the estate than the other children, or else incur debt. This debt, however, is usually smaller than it would be without inheritance.

As the era of expansion, exploitation, and speculation in America passes over into an era of search for economic security and stability, I expect to see more farms thus descend from father to son. It seems reasonable to expect that the economic security associated with the ownership of an unencumbered farm, and the pride that will doubtless develop in a family that has lived on the same farm for many generations, will tend toward larger families than under such conditions as exist in the United States today.

The Churches and Farm Credit

But over two-fifths of our farms, (including tenant and cropper holdings in the South) are no longer owned by the farm operator. And a large proportion of those that are owned by the farmer are mortgaged. Here is an opportunity not only for the State to aid in keeping open the "agricultural ladder," but also for the leaders of local churches to join together and extend character loans to capable and honest young men in the

/16 Stauber, B. R. and Regan, M. M., The Farm Real Estate Situation, 1935-36. U. S. Dept. Agr. Cir. 417, 40 pp., illus. 1936, p. 28. See also Wehrwein, George S. The Problem of Inheritance in American Land Tenure, Jour. Farm Econ., vol. IX, No. 2, April 1922, pp. 163-175.

congregation. Such loans were common in the past - I knew of several 40 years ago in my home community - and still are common (I am told) among the Mormons of Utah, and the Mennonites, Dunkards, and Amish in several States. But now most farmers in the United States are so poor in purse, or else in spirit, that such loans are seldom made among other religious groups; and the Farm Security Administration, seeing the need, is stepping in cautiously.

At present, as previously noted, about $400,000,000 a year is being paid by farmers to nonfarmers as interest on mortgage debt. This amount, if retained among farmers, could put a modern bathroom, and hot and cold water in the kitchen also, into every farmhouse in the Nation in 5 or 6 years. It could build a new house for every young couple when they started farming./17

The Churches and a Familistic Philosophy

More important, even, than the provision of credit to rural youth is the inculcation, in my opinion, of a familistic philosophy. This is the great opportunity for the rural churches to contribute to the preservation of civilization. Social and psychological sciences alike are showing clearly the basic importance of the family in the formation of personal character and the development of a permanent social culture, and that the protection and support which the church has extended to the family is amply justified. As an individualistic philosophy has replaced the familistic philosophy, the farmers have been losing the ownership of the land and the birth rate has declined to a point no longer sufficient to prevent a declining population. Many people are looking to the State for succor and support, but history suggests that such assistance may prove transitory and that the ultimate assurance of economic security resides in the family.

The Rural Nonfarm Population

About 44 percent of the rural people in 1930 did not live on farms, but in suburbs, villages, and along the roads, especially the hard-surfaced highways. The farming people are tending to associate with these rural nonfarm people in providing church as well as school facilities. These village people are generally more rural than urban in associations and attitudes, and it is important to the Nation that they remain so. Like the farming people, they need to realize the dignity of rural life and the great contribution that rural people are making to the welfare of the

/17 "The almost automatic increase in mortgage debt in the agricultural lands through transfer of land ownership, whether by sale or inheritance, is one of the most disturbing features of the agricultural problem." B. M. Anderson, in Chase Economic Bulletin, Oct. 23, 1924, pp. 11-13.

Nation. A large proportion of the leadership of the Nation has risen, and is very likely to continue to arise from these village people./18

Part-Time Farmers

It is encouraging also to note the renewed interest in rural life among city people and the longing of many such people for a home in an environment more favorable to the raising of children and a normal family life than that afforded by row houses, apartments, and tenements. The increasing number of part-time farmers indicates that many families, availing themselves of the facilities for transportation afforded by the automobile and good roads, also the conveniences now made possible by the electric power line, the telephone, and the radio, are moving into the countryside. But as yet the number of such people, relative to the population of the Nation, is so small that the effect on the birth rate is not apparent. Indeed, it is probable that more rural people are being urbanized than there are urban people being ruralized.

These people who have sought a home for themselves and their children on the land are self-selected with reference to a familistic philosophy. A large proportion of their children are likely to become leaders. The church has a great opportunity in bringing to them courage and strength.

The Survival of a Remnant

Every civilization in the past has declined, and from such influences, apparently, as we see around us today. But a remnant has survived, mostly rural, and become the seed stock that developed a new civilization./19

/18 Visher, Stephen Sargent, in "Who's Who in America," 1926-27, p. 29, gives the following percentages: "Thus in proportion to population, the large cities yielded 2.1 times as many notables as the average for the Nation, the small cities 2.3 times as many, villages 3 times as many and suburbs 4 times as many, but the strictly rural sections (farms) yield only about one-third the Nation's average. Expressed in another way: In proportion to population, the cities, contributed nearly 6 times as many notables as did the farms, whereas villages contributed nearly 9 times as many and suburbs nearly 11 times as many as the farms.

"This does not prove that early life on a farm was not conducive to future eminence. Numberous bits of information indicate that a large share of the older American notables spent part of their youth on farms and considered that these experiences had been helpful in their development. Many, indeed, have spoken of themselves as having been reared on a farm when in fact they were born in a village or city and merely spent part of their formative period working on a farm, usually during their summer vacations."

/19 Petrie, Sir. W. M. Flinders. Revolutions of Civilization, 136 pp., illus. New York, 1911.

Indeed, the difference in birth rates between social classes and between families in each class, the result in large part of familistic or religious traditions and social ideals, is constantly resulting in a minority of one generation producing a majority in the next generation. Nearly half of the population of the United States was estimated some years ago by the Quota Board of the Bureau of Immigration to be descended from the 4,000,000 reported by the Census of 1790. And, more significant, about one-fourth of the families of the present generation - those having four children or more, mostly rural - are producing nearly two-thirds of the next generation./20 It is these rural children in fairly large families who seem likely to determine the destiny of the Nation. And the character, the ideals, the attitudes of these children are being influenced deeply, for good or for ill, mainly by the mothers on the farms and in the villages today. They hold in their hands the destiny of the Nation, indeed, it may be, of modern civilization.

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/20 Lorimer, Frank, secretary, Population Association of America. Estimate, based on census data, made for the writer.

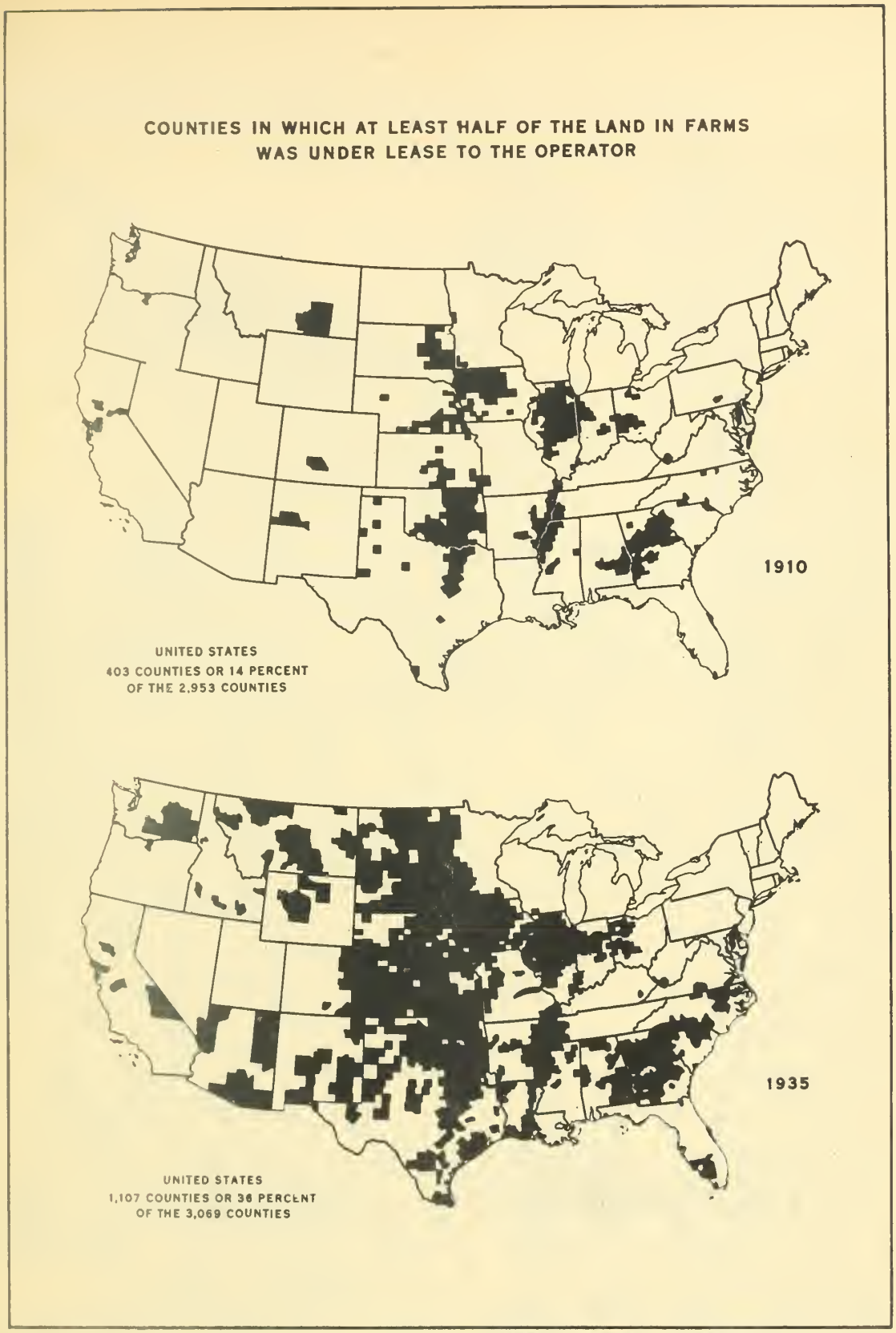
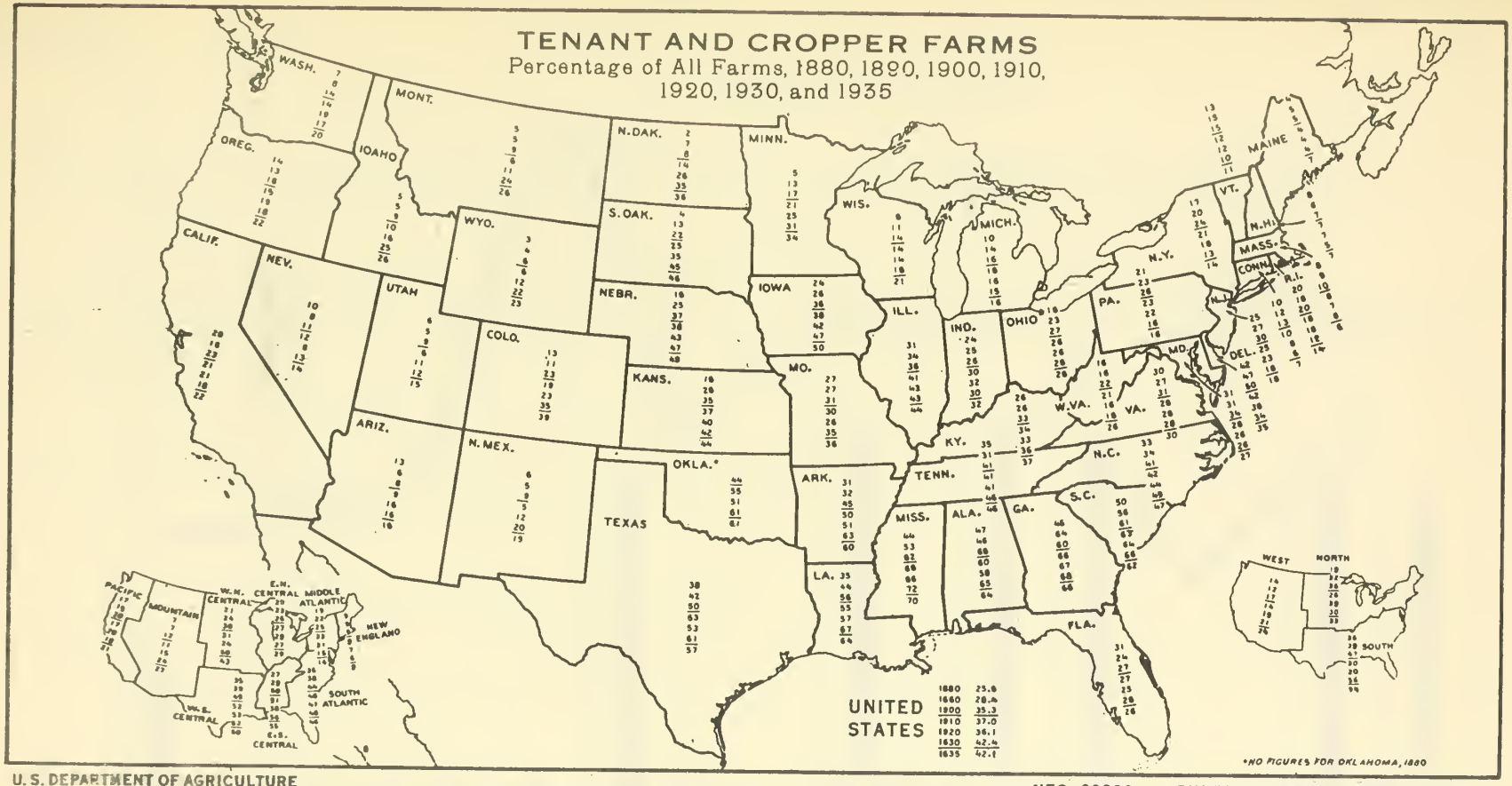


Figure 1. - Since 1910 the proportion of the counties in the United States in which half or more of the land in farms was under lease has increased from 14 to 36 percent. The increases were greatest in the Corn Belt, the Cotton Belt, and the Great Plains, all regions of commercial agriculture.



U. S. DEPARTMENT OF AGRICULTURE NEG. 29080 BUREAU OF AGRICULTURAL ECONOMICS

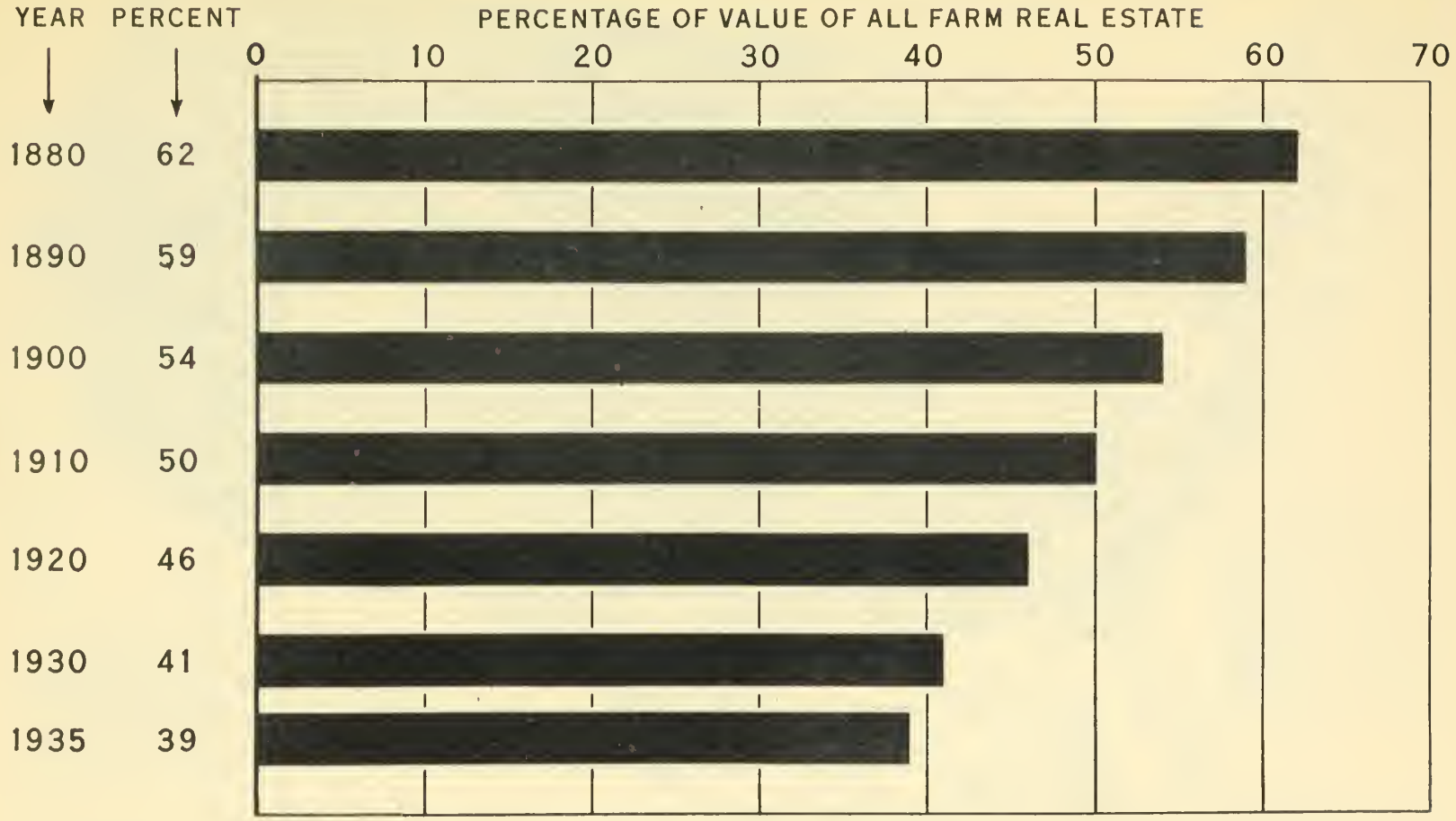
Figure 2. - The percentage of farms operated by tenants decreased between 1880 and 1935 in 11 Eastern States - New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, and Florida. However, an increase occurred in these States, except Florida, between 1930 and 1935. The more outstanding increases between 1880 and 1935 were in North Dakota, South Dakota, Nebraska, and Kansas - all wheat-growing States, and States where pioneer farmers have been passing away; and in Mississippi, Arkansas, and Louisiana - all cotton-growing States. A greater proportion of farms of Iowa are now farmed by tenants than in any other Northern State. However, the proportion is almost as high in South Dakota and Nebraska.

TOTAL FARM-MORTGAGE DEBT AND GROSS FARM INCOME, 1910-37

U. S. DEPARTMENT OF AGRICULTURE NEG. 32967 BUREAU OF AGRICULTURAL ECONOMICS

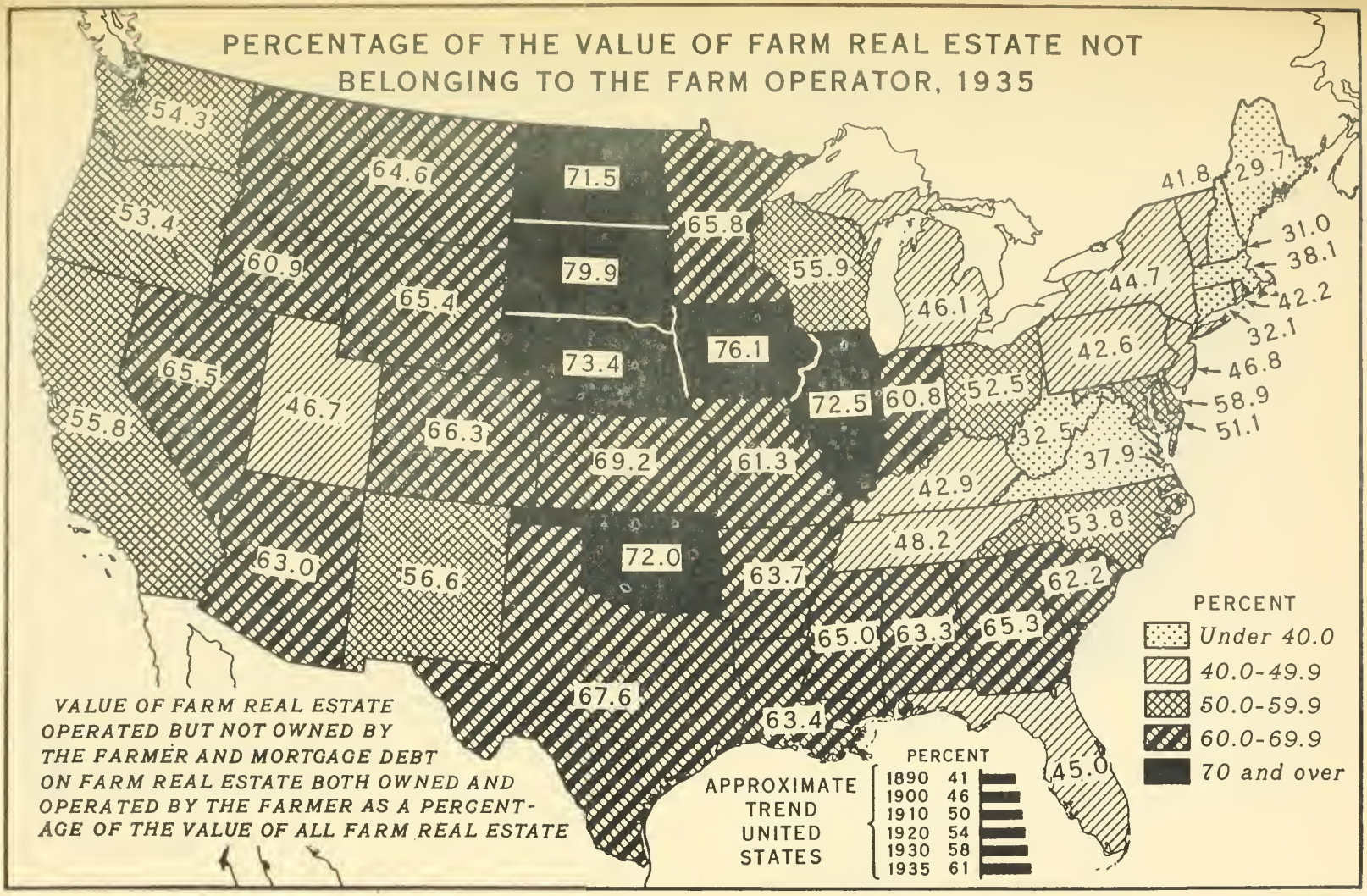
Figure 3. - Changes in the volume of farm-mortgage debt lag behind changes in farm income. Though the rapid rise in farm income prior to 1920 was accompanied by a substantial expansion in agricultural indebtedness, the fall in farm income in 1921 and 1932 was not matched by a comparable decrease in debt. As a consequence, the relation of debt to income fluctuates considerably, becoming extremely unfavorable at times. Since early 1933, increases in gross farm income have again placed the two factors in better relation to each other.

ESTIMATED EQUITY OF FARM OPERATORS IN FARM REAL ESTATE THEY OPERATED, 1880-1935



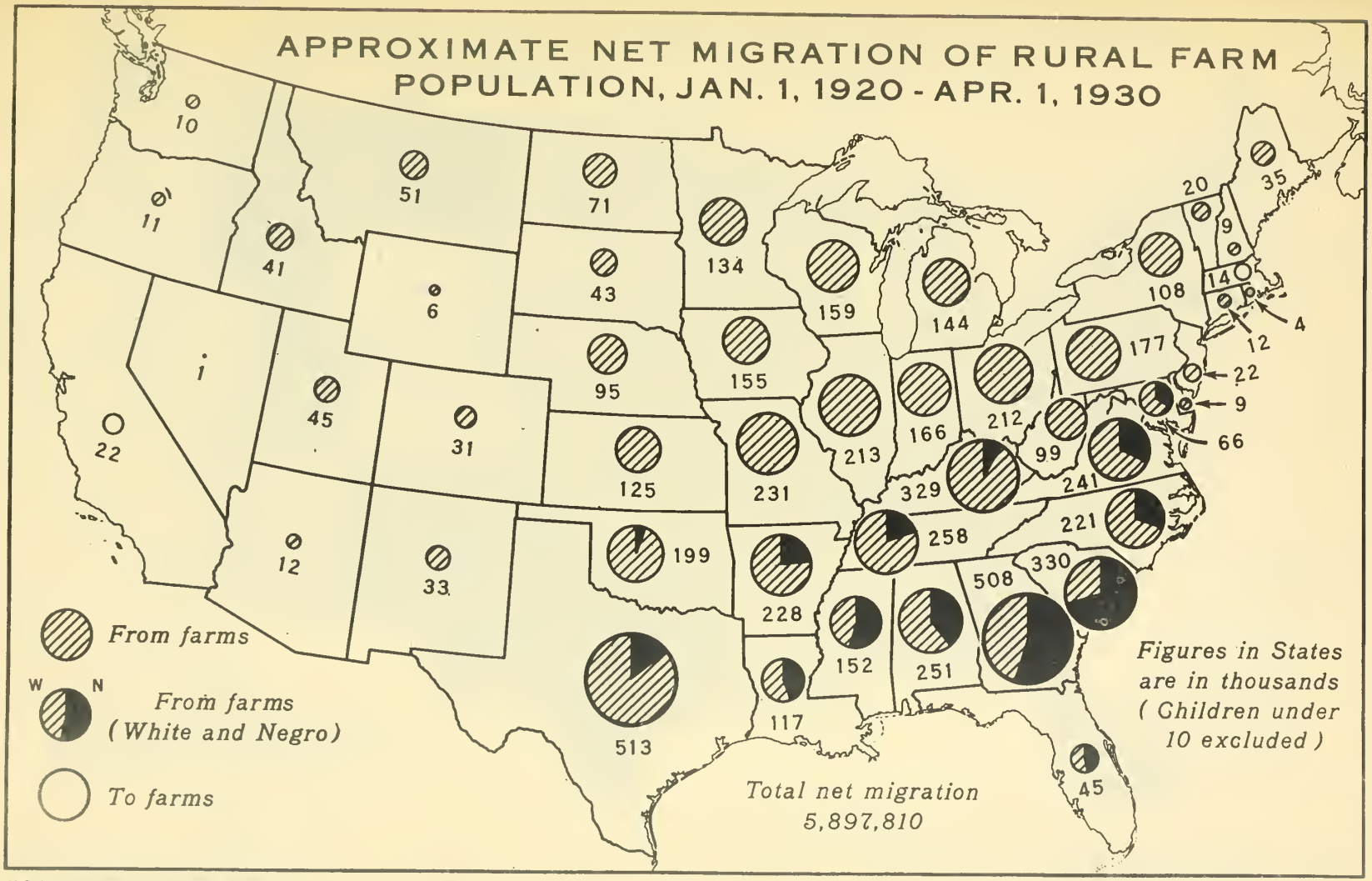
U. S. DEPARTMENT OF AGRICULTURE NEG. 32023 BUREAU OF AGRICULTURAL ECONOMICS

Figure 4. - In 1880, the equity of farm operators in farm real estate, that is, the proportion remaining after the value of farms operated by tenants and the mortgage debt on farms operated by owners has been subtracted from the value of all farms, was about 62 percent. In each decade thereafter, periods of prosperity as well as of depression, the percentage declined about four points, until in 1935 it was only 39 percent. An increasing proportion of farm operators have been sharing the income from the land with landlords or mortgage holders.



U. S. DEPARTMENT OF AGRICULTURE NEG. 34136 BUREAU OF AGRICULTURAL ECONOMICS

Figure 5. - Between 1930 and 1935 equity of farm operators in farm real estate declined, in Iowa, from 29.2 to 23.9 percent; in Illinois, from 29.3 to 27.5 percent; and in South Dakota, from 28.3 to 20.1 percent. Much of this drop can be ascribed to foreclosures and to decline in land values, particularly in South Dakota. On the other hand, this equity percentage rose in Arkansas and Mississippi, possibly because of decrease in cropper "farms" (laborers paid with a share of the crop). But in the Northeastern States, where the equity of farm operators had remained stationary or increased during most decades preceding 1930, decline was generally notable between 1930 and 1935, owing principally to decline in farm values and in New England to increase in mortgage debt.



U.S. DEPARTMENT OF AGRICULTURE

NEG. 25165 BUREAU OF AGRICULTURAL ECONOMICS

Figure 6. - About 60 percent of the nearly 6,000,000 net migration of people over 10 years of age from farms during 1920-29 was from the South. Most of these migrants were young people. The birth rate is high among southern rural people, and economic opportunity was less than in the North. If it costs $2,000 to rear and educate a child to the age of 15 on farms in the South, these migrants from southern farms represent a contribution of about $7,000,000,000 made during the decade by the farm population of the South to other parts of the Nation, mostly to the cities.

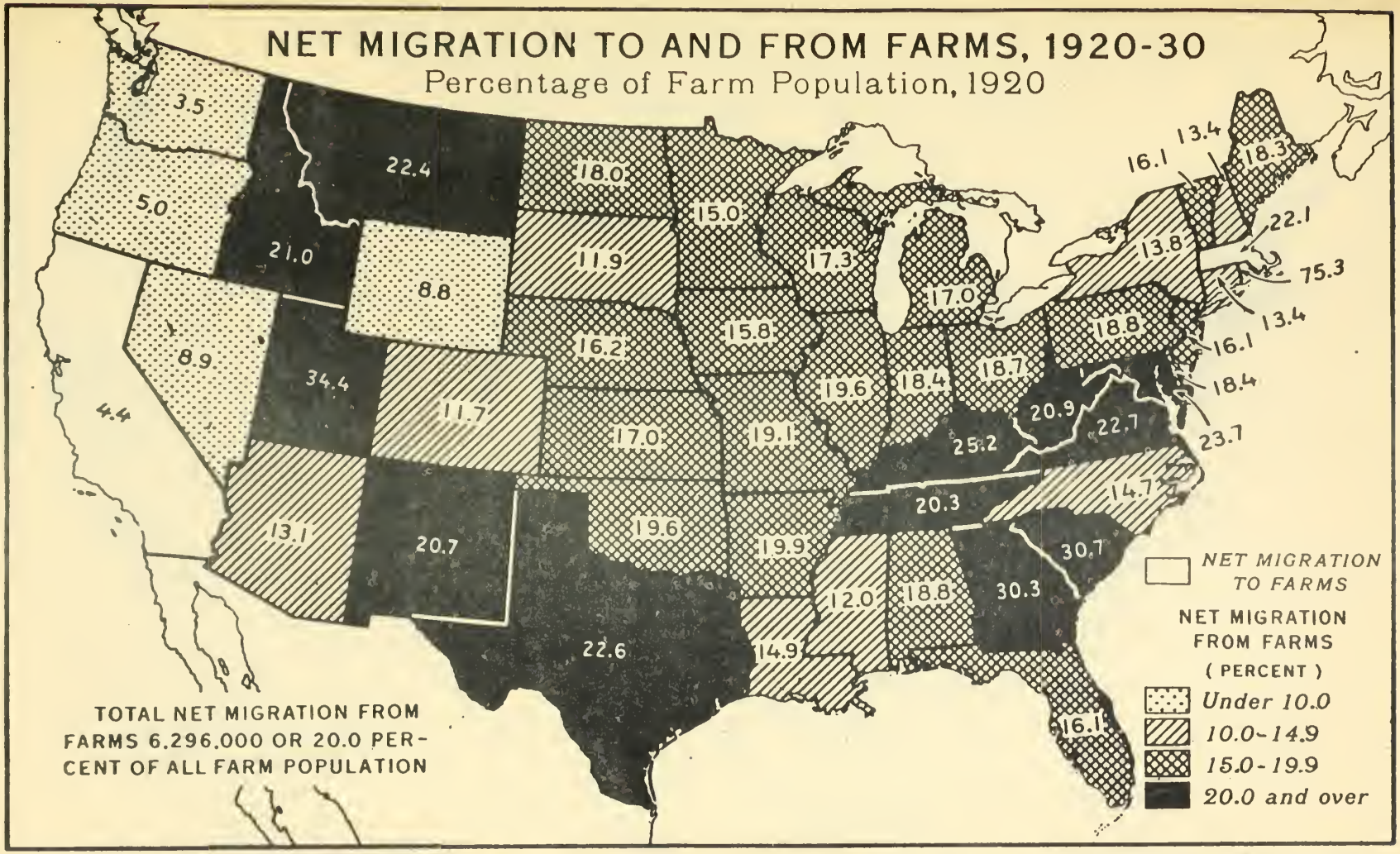


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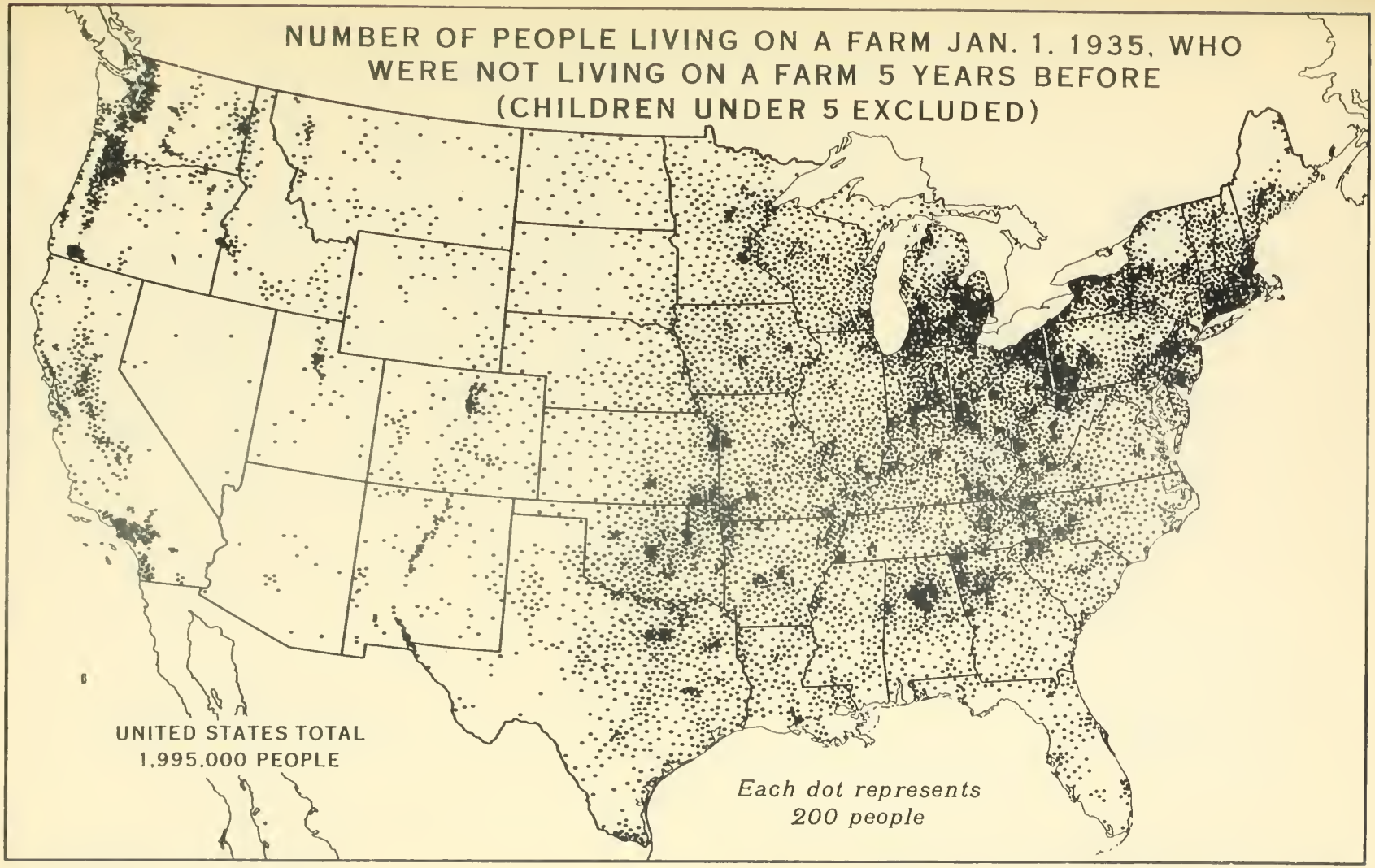
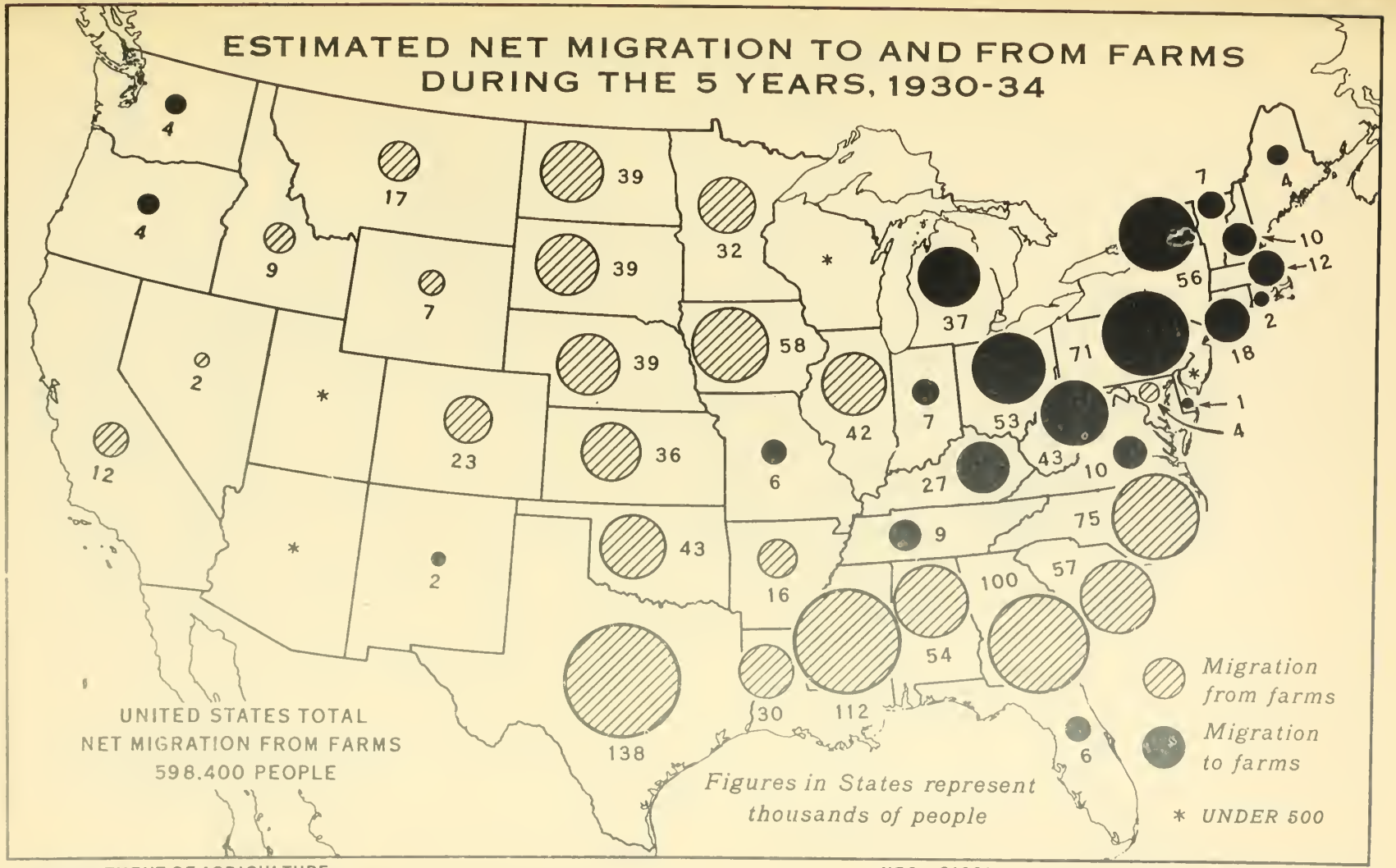
Figure 7. – Relative to the farm population in 1920, migration from farms exceeded 20 percent in seven Southern States, and in New Mexico, Utah, Idaho, and Montana. In these States the birth rate is high and the soils are poor to fair, or mostly arid. In the North, the range in ratio was from 12 percent in South Dakota to nearly 20 percent in Missouri and Illinois, except that in Massachusetts and Rhode Island there was a net migration to farms. In California also there was a net migration to farms, and in Oregon and Washington the movement from farms was small.



U. S. DEPARTMENT OF AGRICULTURE NEG 31511 BUREAU OF AGRICULTURAL ECONOMICS

Figure 8. - The number of people living on farms in 1935 who were not living on farms 5 years before exceeded the increase in farm population between 1930 and 1935, except in a belt extending from New Hampshire through southern New England, Pennsylvania, Ohio, and the Virginias to Tennessee; also except Florida, Arkansas, New Mexico, and Utah. Evidently migration from farms exceeded the natural increase in most of the States. Local surveys indicate that most of the survivors of the back-to-the-land movement are middle-aged persons with children, and they intend to remain on the land.



U. S. DEPARTMENT OF AGRICULTURE NEG. 31831 BUREAU OF AGRICULTURAL ECONOMICS

Figure 9. - From Tennessee and Michigan to Virginia and Maine, but excluding Maryland, - that is, throughout most of the manufacturing belt and a little beyond - migration to farms during the depression years 1930-34 exceeded that from farms. These States are characterized also by dairying and general farming, and in the Appalachian Mountains by self-sufficing and part-time farms. In the Cotton Belt, in the prairie part of the Corn Belt, and in the Wheat Belt - areas of commercial agriculture and high proportions of tenancy in most parts, there is indicated a surprisingly large net migration from farms during the depression.

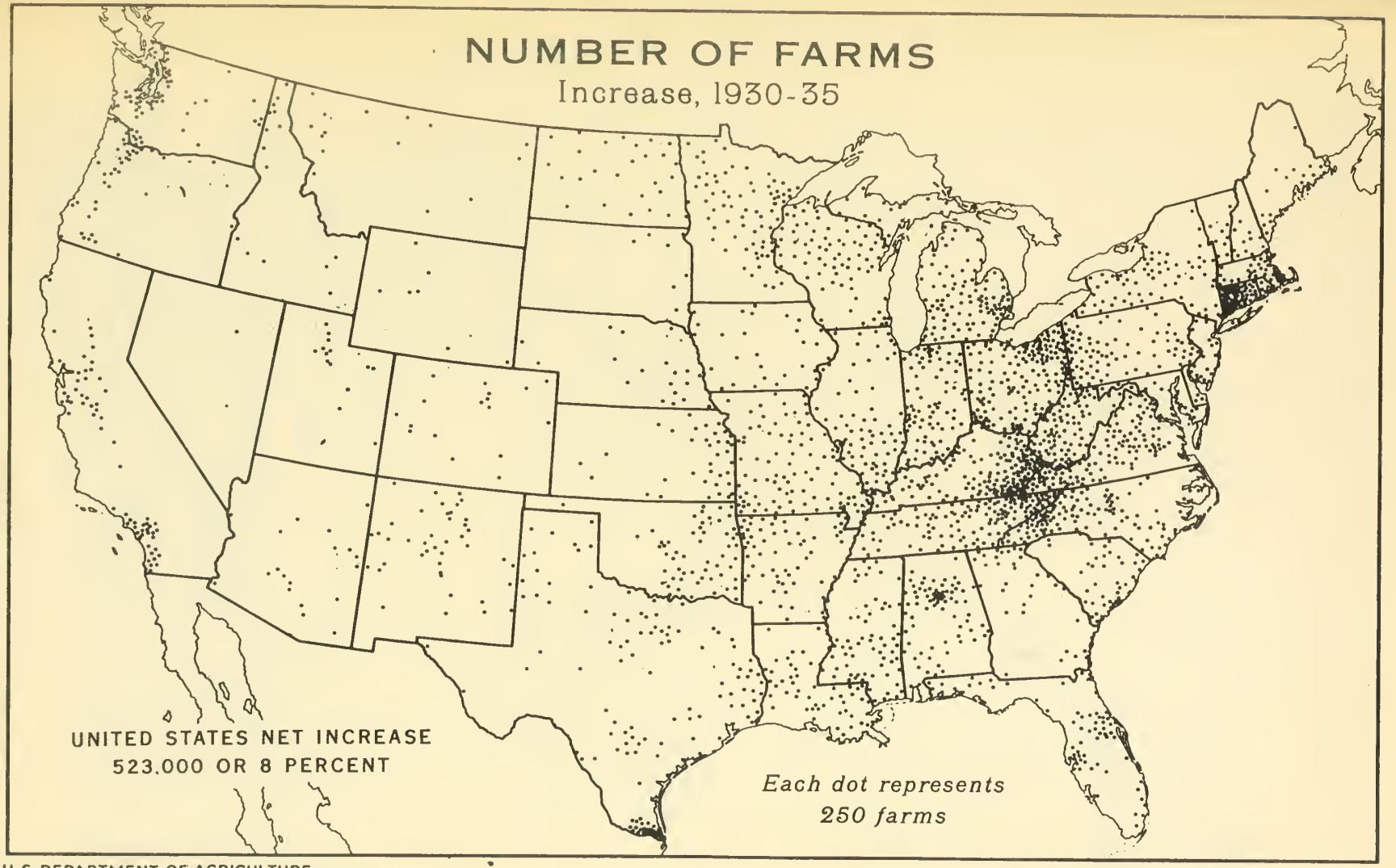


Figure 10. - The economic depression reversed many agricultural trends of previous years. Instead of a decline in number of farms, which had characterized most States since 1920 and some Northeastern States since 1880, there was a notable and widespread increase. This increase occurred largely in regions of poor soils or hilly surface, where the birth rate generally is high, and near the large cities, particularly those where the surrounding land is cheap. The location of this increase in farms suggests that most of these new farms are small part-time or self-sufficing farms.

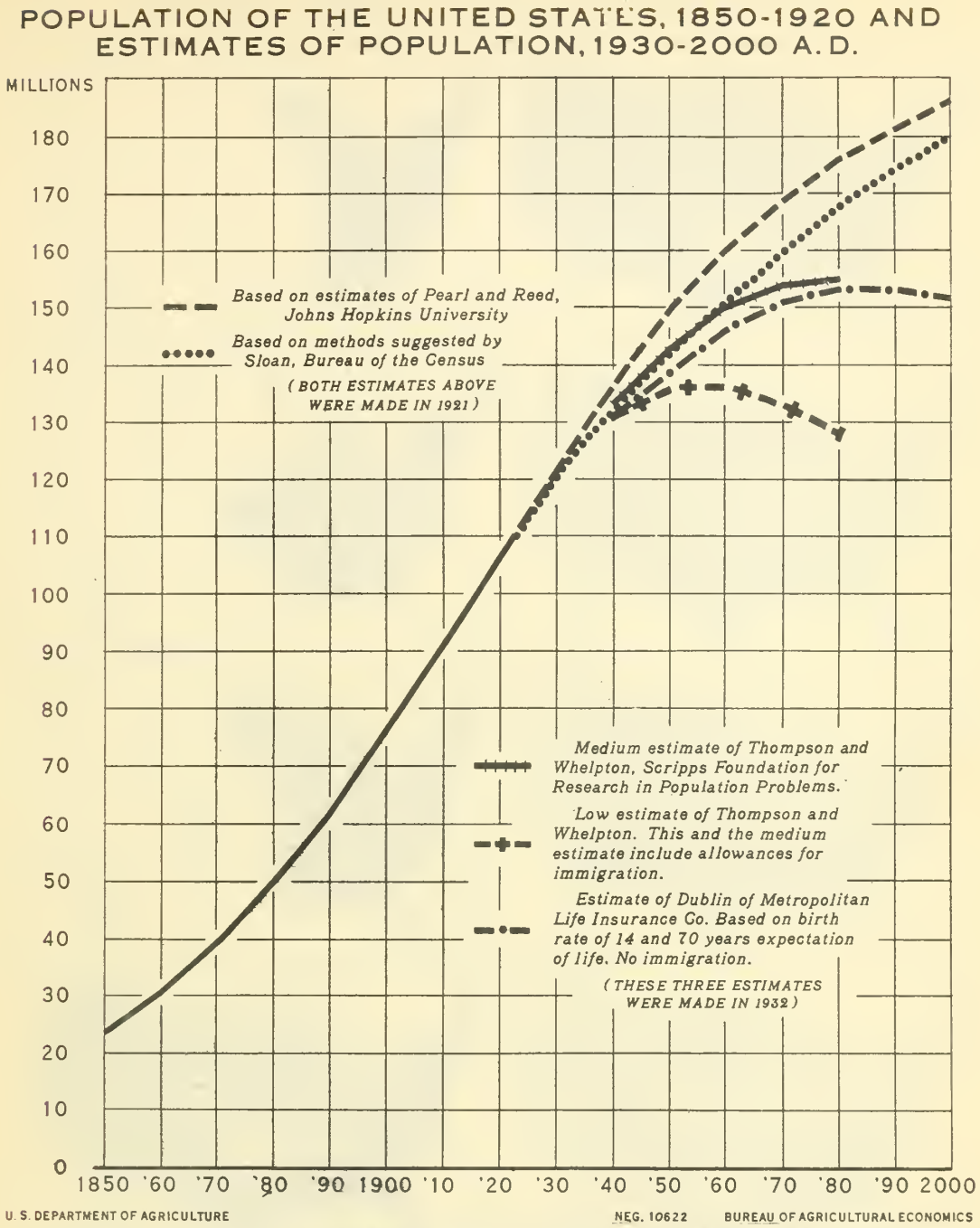
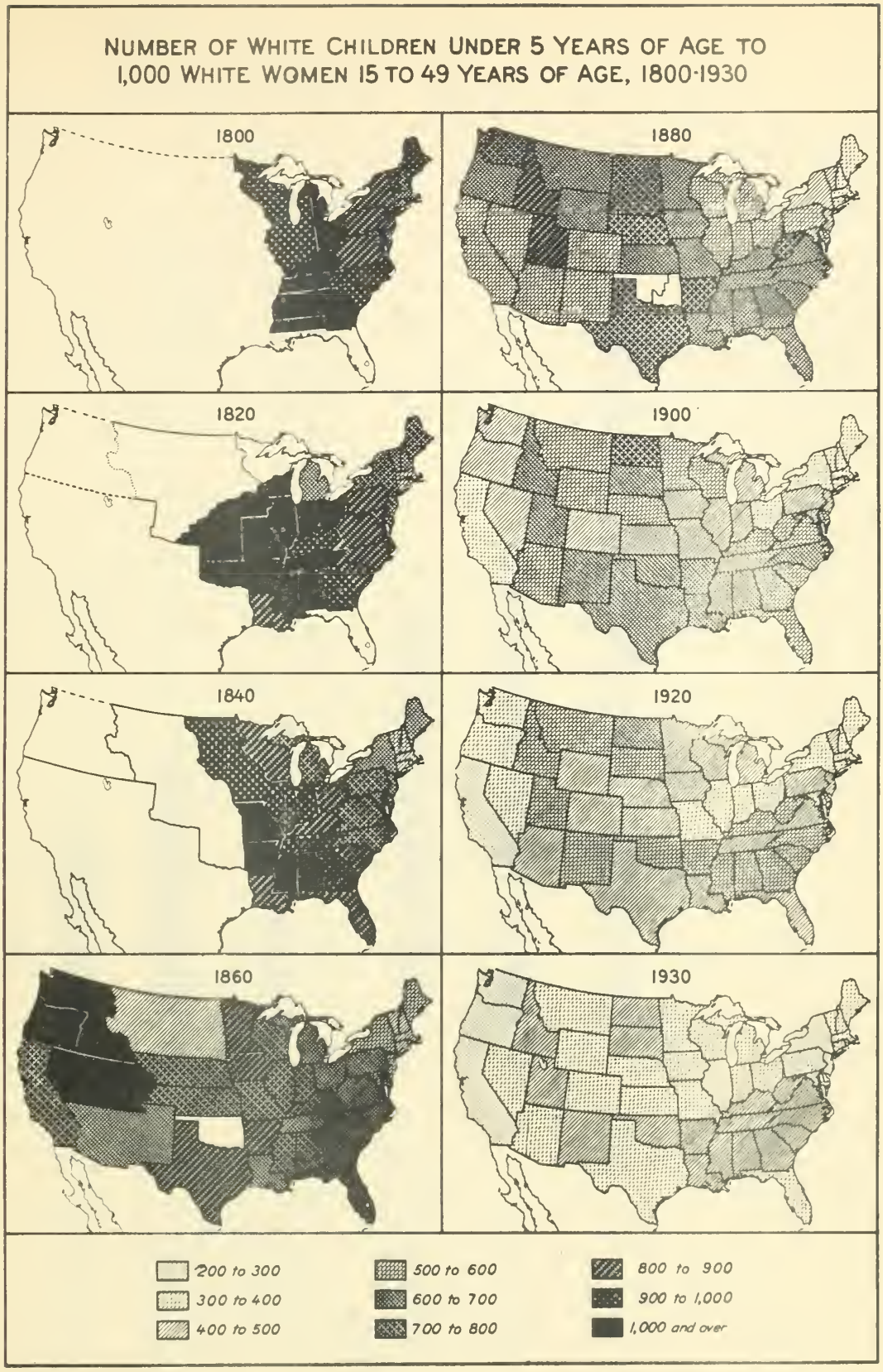


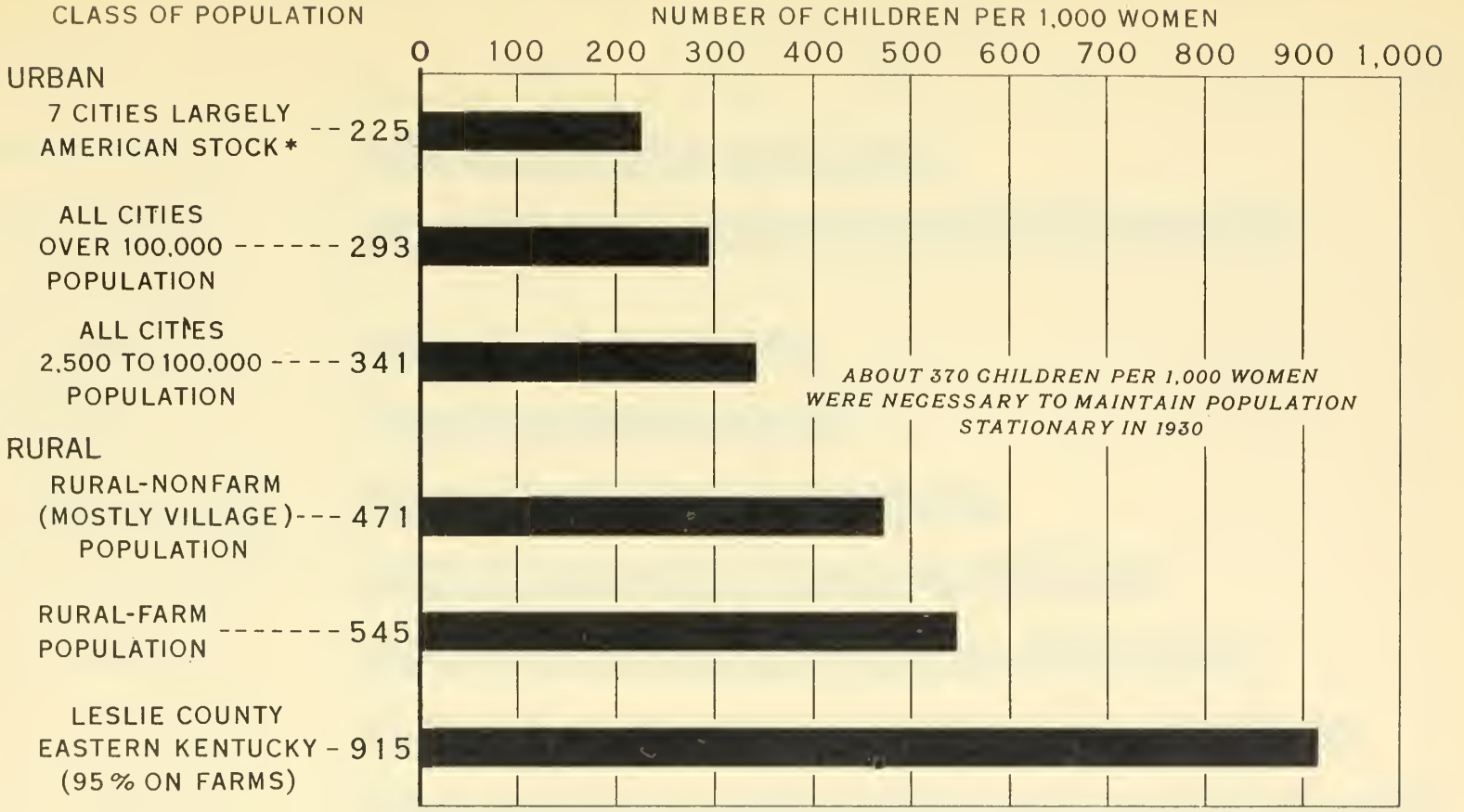
Figure 11. - In 1921, Professors Pearl and Reed of Johns Hopkins University, on the basis of population trends projected on a logistic curve, estimated that the United States was slowly approaching a stationary population of nearly 200,000,000, to be reached about the year 2020. But the rapid decline in the birth rate since 1921, indicates a maximum population of 135,000,000 to 145,000,000 between the years 1950 and 1970, unless the immigration laws are changed. Moreover, unless the birth rate rises or immigration increases, a decline in the Nation's population will set in within a few decades. However, the prospect is that the population of the Nation will not diverge more than 10 percent from the present number within the next 40 years.



U.S. DEPARTMENT OF AGRICULTURE NEG. 27790 BUREAU OF AGRICULTURAL ECONOMICS

Figure 12. - The decline in the birth rate (as measured by the ratio of children to women) started in southern New England as early as 1800 and has spread west and south during the past century and a third with the progress of industrialization and urbanization of the people.

NUMBER OF CHILDREN UNDER 5 YEARS OF AGE PER 1,000 WOMEN 15 TO 45 YEARS OF AGE IN UNITED STATES, APRIL 1, 1930

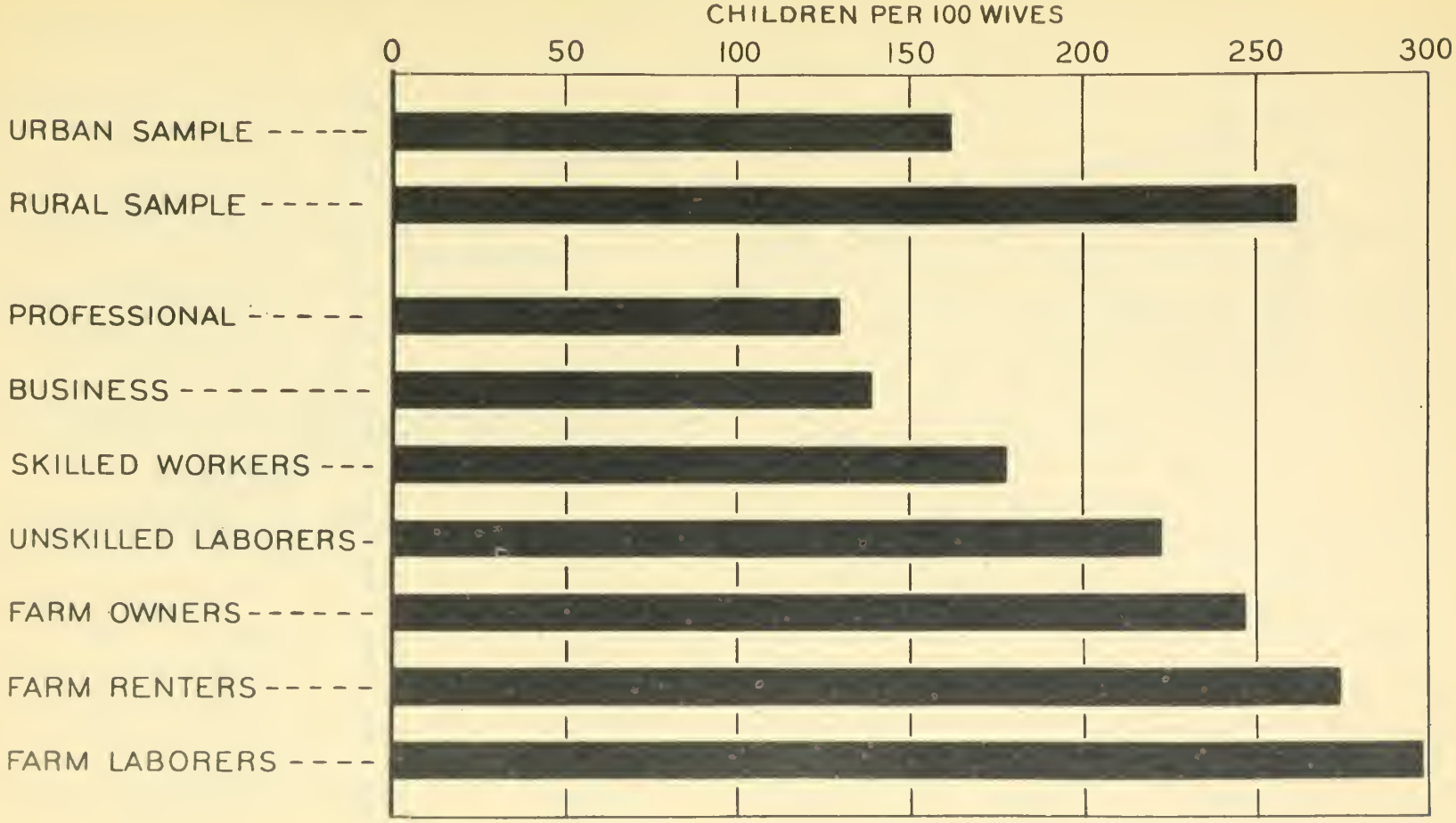


* PORTLAND (OREGON), SAN FRANCISCO, LOS ANGELES, KANSAS CITY, ST. LOUIS, NASHVILLE, AND ATLANTA

U. S. DEPARTMENT OF AGRICULTURE NEG. 25167 BUREAU OF AGRICULTURAL ECONOMICS

Figure 13. - About 370 children under 5 years of age per 1,000 women 15 to 45 years of age (childbearing age) are required to maintain population stationary at the 1930 expectation of life in the United States of 61 years. In 1930, the seven cities largely of American stock, represented in the top bar of the graph, lacked, therefore, about 38 percent of having enough children to maintain their population permanently without accessions from outside, and all cities of over 100,000 population had a deficit of nearly 20 percent, whereas the smaller cities had a deficit of about 6 percent. On the other hand, the rural nonfarm (mostly village and suburban) population had a surplus of 30 percent, and the farm population a surplus of 50 percent. In 1930, urban deficit and rural surplus nearly balanced. Now there is an increasing national deficit.

CHILDREN BORN PER 100 WIVES, CLASSIFIED ACCORDING TO OCCUPATION OF THE HUSBANDS, SELECTED COUNTIES, CENSUS OF 1910*



*COMPILED FROM CENSUS OF 1910 BY MILBANK MEMORIAL FUND

U. S. DEPARTMENT OF AGRICULTURE NEG. 27633 BUREAU OF AGRICULTURAL ECONOMICS

Figure 14. - In 1929, the Milbank Memorial Fund tabulated the returns from the 1910 census inquiry, "Mother of how many children: Number born ____," for 100,000 native white women classified by occupation of husband. The results were standardized for age of wife, duration of marriage, etc. Farm laborers averaged 9 percent more children born than did tenants; and these, 12 percent more than did owner-operators. But farm owner-operators averaged 11 percent more than did unskilled laborers in the cities; the unskilled averaged 25 percent more than did the skilled, and these, 27 percent more than did businessmen.

POPULATION, NUMBER OF BIRTHS, AND AGRICULTURAL PRODUCTION; PERCENTAGE CHANGE, UNITED STATES, 1910-37

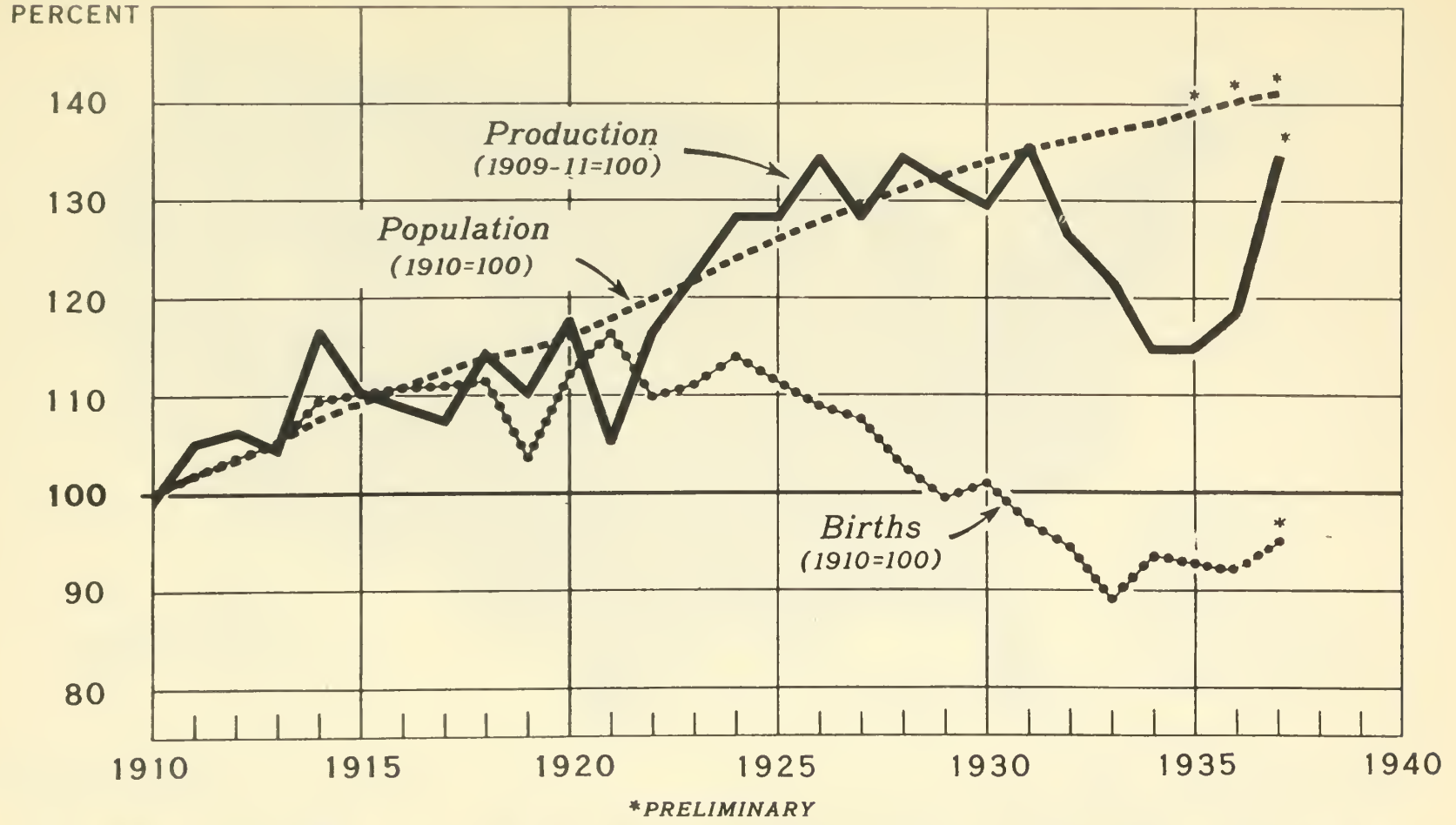


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Figure 15. - The increase of population was remarkably steady until recently, only the influenza epidemic of 1918, which affected both births and deaths, causing a waver in the line. But in recent years the decline in births and the restrictions on immigration have caused a slowing down in the increase of population. Agricultural production, on the other hand, has fluctuated notably. Since 1931, the trend has been downward; largely because of extraordinary drought, the agricultural-adjustment program, and soil erosion. But far more notable than the recent decline in agricultural production has been the 22-percent decline in births since 1924.

NOTE: ONE-PAGE BULLETIN ILLUSTRATION

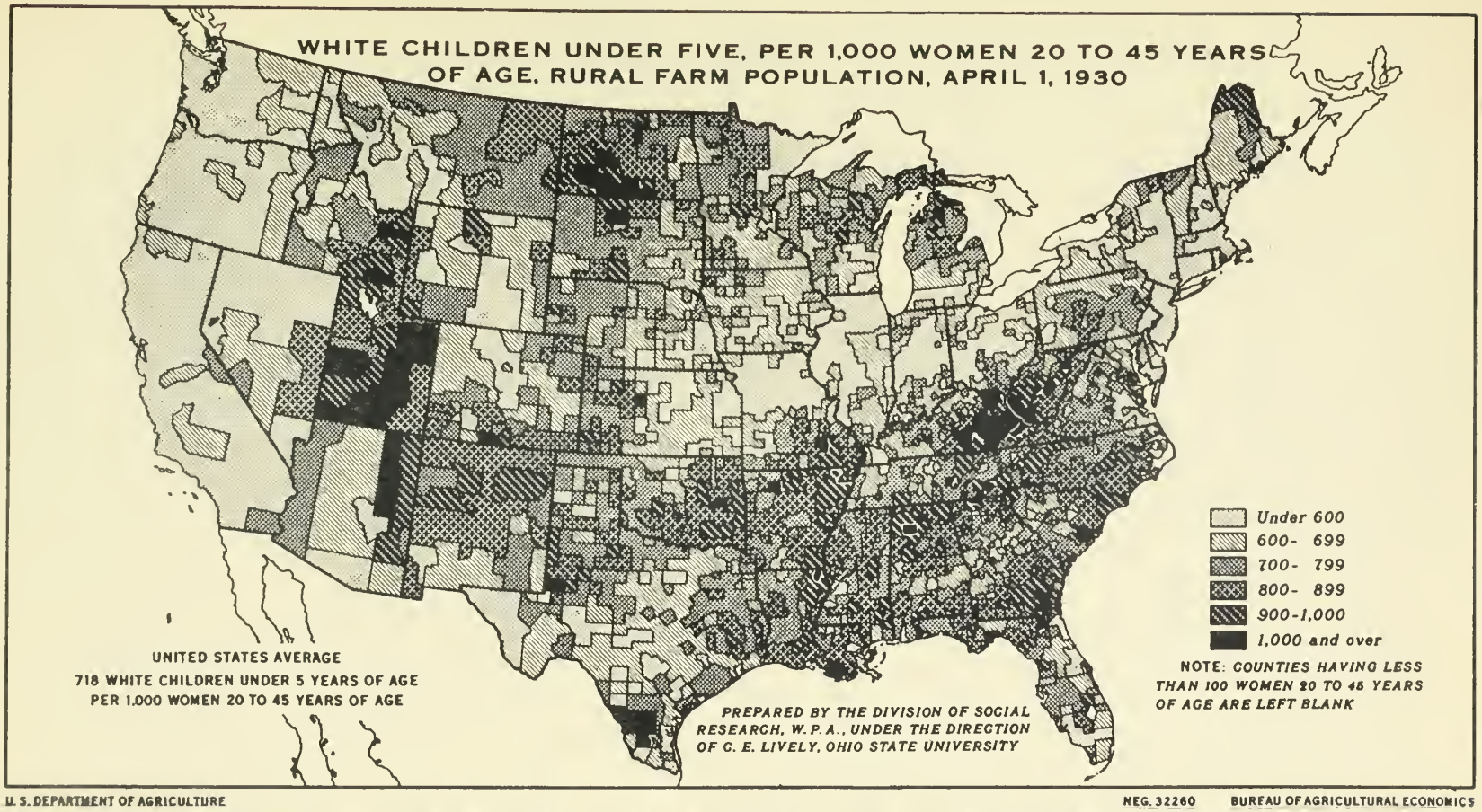

Figure 16. - The ratio of children under 5 years of age to women of childbearing age (assumed in this case to be 20 to 45 years) is a better measure of the fertility of a population than the average size of the family, or the crude birth rate (births per 1,000 population). About 440 children under 5 per 1,000 white women who are 20 to 45 are now necessary to hold population permanently stationary. In the Northeast and the Corn Belt, the surplus of children in the farm population above this number was 20 to 50 percent in 1930, and in some suburban counties of the Pacific-coast States a deficit has developed. By contrast, the surplus exceeded 100 percent in many counties of the southern Appalachian and Ozark areas, and in a few counties elsewhere.

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Two Trends of Great Agricultural Significance

O. E. Baker

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